

Title (en)

HEAD MODULE CAPABLE OF RECIPROCAL ROTATION FOR ELECTRIC CLEANING APPARATUS

Title (de)

KOPFMODUL MIT HIN- UND HERGEHENDER DREHBEWEGUNG FÜR ELEKTRISCHE REINIGUNGSVORRICHTUNG

Title (fr)

MODULE DE TÊTE SUSCEPTIBLE DE ROTATION RÉCIPROQUE DESTINÉ À UN APPAREIL DE NETTOYAGE ÉLECTRIQUE

Publication

EP 3381403 A1 20181003 (EN)

Application

EP 15909025 A 20151125

Priority

CN 2015095484 W 20151125

Abstract (en)

A head module (2) capable of reciprocal rotation for an electric cleaning apparatus, comprising a cleaning element (21), a head module housing (22), a head module driven rod (23) disposed in a hollow head module housing inner cavity (222) of the housing (22), the driven rod (23) being provided with a hollow cavity (239) for accommodating a drive shaft (11); at least one driven rod gap (231) provided in a region surrounding the hollow cavity body (239); at least one housing inner side notch (221) distributed on a side wall of the housing inner cavity (222), for accommodating a corresponding driven rod protrusion (233) disposed on the driven rod (23), the driven rod (23) further comprising a partially cylindrical or conical cavity body region (238). The diameter of the region (238) or the greatest diameter of a joining portion corresponding to the region (238) is less than the diameter of a cylinder region (113) of the drive shaft (11). When the drive shaft (11) is not yet inserted into the head module driven rod (23), there is a gap (240) between the housing inner side notch (221) and the driven rod protrusion (233) and perpendicular to a direction of the axis of rotation of the drive shaft (11) (L1). The length of the gap in the direction perpendicular to a direction of the axis of rotation of the drive shaft (11) (L1) is greater than or equal to the amount of single-side interference between the driven rod (23) and the drive shaft (11) of the head module.

IPC 8 full level

A61C 17/22 (2006.01)

CPC (source: EP US)

A46B 5/0095 (2013.01 - US); **A61C 17/222** (2013.01 - EP US); **A61C 17/225** (2013.01 - EP US); **A61C 17/3418** (2013.01 - US); **A61C 17/34** (2013.01 - US)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3381403 A1 20181003; **EP 3381403 A4 20181031**; **EP 3381403 B1 20200422**; ES 2807254 T3 20210222; JP 2018535038 A 20181129; JP 6710757 B2 20200617; US 10582990 B2 20200310; US 2018311022 A1 20181101; WO 2017088113 A1 20170601

DOCDB simple family (application)

EP 15909025 A 20151125; CN 2015095484 W 20151125; ES 15909025 T 20151125; JP 2018527127 A 20151125; US 201515779075 A 20151125